

**THE ROLE OF TRUST AS A MEDIATOR IN THE RELATIONSHIP  
BETWEEN TECHNOLOGY FACTORS AND INTENTION TO  
ACCEPT INTERNET BANKING IN NIGERIA**

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## **DEDICATION**

Dedicated this research work to my beloved parents and Lilian Solomon



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## ABSTRACT

This study had been carried out to investigate factors that influence the intention to accept internet banking and examined the mediating role of trust between technology factors and the intention to accept an internet banking. This study reviewed related technology acceptance theories and trust models. The decomposed theory of planned behaviour, innovation diffusion theory and trustworthiness technology were adopted. The aforementioned adopted models suggested five main factors namely; perceived behaviour control, attitude, subjective norm, trust and intention to accept internet banking. This was a quantitative research method. Questionnaire was adopted to 559 bank customers within Lagos, Port-harcourt and Abuja in Nigeria. The response rate is 55.85%, representing 391 worth questionnaires. SPSS and AMOS version 20 tools were utilized to analyze the data in reference to descriptive statistics, standardized regression and mediation effects. The initial model without mediation analyzes revealed 71% variance ( $R^2$ ) in customer intent to accept internet banking. However, when modified with trust mediating factors, the results revealed 74% variance, implying that trust contributed a 3% to the model. Consequently serves as a partial mediator towards the intention to accept internet banking in Nigeria. As a result, thorough understanding of this may assist practitioners in analyzing reason(s) for slow pace in acceptance of the technology, provide efficient measures to improving customers' acceptance and provide an insight for academia about internet usage in Nigeria. Future studies can be directed towards replicating the use of this model in other locations and different analytical techniques.

## ABSTRAK

Kajian ini dijalankan untuk mengkaji faktor-faktor yang mempengaruhi kecenderungan untuk menerima perbankan internet dan menganalisis peranan pengantara kepercayaan antara faktor-faktor teknologi dan kecenderungan menerima perbankan internet. Kajian ini mengkaji teori-teori penerimaan teknologi dan model-model kepercayaan yang berkaitan. Teori kelakuan terancang, teori-teori penyebaran teknologi, dan teori teknologi dipercayai telah digunakan. Model-model berkenaan telah menyediakan lima faktor utama iaitu: sangkaan kawalan kelakuan, sikap, norma subjektif, kepercayaan dan kecenderungan untuk menerima perbankan internet. Kajian ini menggunakan kaedah kuantitatif. Soal selidik telah diedarkan kepada 559 pelanggan bank di Lagos, Port-harcourt dan Abuja di Nigeria. Kadar pulangan semula adalah 55.85 peratus, mewakili 391 soal selidik yang boleh digunakan. Perisian SPSS dan AMOS versi 20 telah digunakan untuk menganalisa data merujuk kepada statistik deskriptif, regresi biasa dan kesan pengantara. Analisis model awal tanpa pengantara mendapati 71% varians ( $R^2$ ) dalam kecenderungan pelanggan untuk menerima perbankan internet. Walau bagaimanapun, apabila diubahsuai dengan faktor kepercayaan, keputusan mendedahkan 74% varians menunjukkan bahawa kepercayaan menyumbang 3% kepada model tersebut. Hasilnya, factor kepercayaan adalah pengantara separa terhadap kecenderungan untuk menerima perbankan internet di Nigeria. Kesimpulannya, dapatan kajian ini akan membantu pengamal dalam perbankan internet dalam menganalisa sebab-sebab kepada kelembapan penerimaan teknologi ini, menyediakan kayu ukur yang cekap untuk menambahbaik penerimaan pelanggan dan memberi tinjauan kepada ahli akademik tentang penggunaan internet di Nigeria. Kajian akan datang boleh dilaksanakan terhadap penggunaan semula model ini di lokasi-lokasi lain dan menggunakan teknik-teknik analisis yang berbeza.

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## LIST OF SYMBOLS AND ABBREVIATIONS

AGFI	:	Adjusted Good of Fit Index
AMOS	:	Analyzes of Movement Structure
ATM	:	Automated Teller Machine
AVE	:	Average Variance Extracted
CBN	:	Central Bank of Nigeria
CFA	:	Confirmatory Factor Analysis
CFI	:	Comparative Fit Index
CR	:	Critical Ratio
DTPB	:	Decomposed Theory of Planned Behavior
EFA	:	Exploratory Factor Analysis
FCT	:	Federal Capital Territory
GFI	:	Goodness of Fit Index
ICT	:	Information and Communication Technology
IDT	:	Innovation Diffusion Theory
IT	:	Information Technology
N'	:	Naira

NCC	:	Nigerian Communications Commission
NFI	:	Normed Fit Index
NNFI	:	Non-Normed Fit Index
PIIT	:	Personal Information Innovation Technology
PIN	:	Personal Identification Number
RMR	:	Root Mean Squared Residual
RMSEA	:	Root Mean Squared Error of Approximation
SEM	:	Structural Equation Modeling
SPSS	:	Statistical Package for the Social Sciences
TAM	:	Technology Acceptance Model
TPB	:	Theory of Planned Behavior
TRA	:	Theory of Reasoned Action
TCT	:	Technology Continuance Theory
USA	:	United State of America
UTHM	:	Universiti Tun Hussein Onn Malaysia
UTM	:	Universiti Teknologi Malaysia
%	:	Percentage
<	:	Less Than
>	:	Greater Than

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## CHAPTER 1

### INTRODUCTION

Chapter one introduced an overview of the going concern about the role of trust as a mediator in the relationship between technology factors and intention to accept internet banking in Nigeria. Chapter one provided background of the study, the state of internet banking in Nigeria, problem statement, research questions and objectives, the importance of the study, the scope of the study, related terminologies, and thesis structure discussed.

#### 1.1 Background of the study

The impact of technology on daily transactions cannot be underestimated (Adam *et al.*, 1992). Several investigations and substantial facts showed that internet technology provides organizations with ample opportunities to ease commercial transactions and satisfactory services to their customers (Abiola & Adebayo, 2013; Akinola & Iordoo, 2013; Harvey, 2005; Viosca *et al.*, 2004). The introducing hypertext transfer protocol (HTTP) after hypertext markup language (HTML) and World Wide Web in the 1990s, the result show many business opportunities including the internet banking.

The definite increase in technologies led to the evolutions associated with internet banking within the banking world. Internet banking has recently modified conventional methods, as banks adopting the technology as strategy in competing to keep customers and gain prospective ones (Borghoff, 2011; Odior & Richard, 2013).

Internet banking encountering remarkable credibility that turn out to be one of the leading means to provide unique product or service in banking sectors (Turban & Lai, 2008). This rapid growth and development of internet banking system attracted the interest of countless researchers (Borghoff, 2011; Oni & Ayo, 2010; Mohamed *et al.*, 2009) to deal with research in this particular area. Studies defined internet banking differently, for instant, Thulani *et al.* (2009) defined banking via internet as a way through which bank customers could access their account and overall history of their transactions conveniently

Ramayah *et al.* (2009) described banking via the internet as a provision of bank account details along with services via the internet web-based on the concerned banks. This signifies that by internet banking, bank customers have access to banks' services without the stress of searching for automated teller machine (ATM), point of sale (PoS) or other cards as means of making payment, since could be done on their own internet resources and relish the comfort and ease linked with the using internet banking whenever from their geographical place.

Most of the studies on banking via internet aimed at the factors, examining impacting or influencing customers to adopt of internet banking and these studies had been adopting technology theories and models, including innovation diffusion theory (IDT), the theory of reasoned action (TRA), the theory of planned behavior (TPB) and technology acceptance model (TAM), the technology continuance theory (TCT) and decomposed theory of planned behavior (DTPB). In most studies, researchers adopt any or combine two or adopt related factors from the theories towards investigating factors influencing technology acceptance such as internet banking system.

Further, Teo & Liu (2005); Mayer *et al.* (1995); Brian *et al.* (2003); McKnight & Chervany (2002) established trust model that could incorporate with the technology theories and behavioral intention. Studies such as (Amin, 2007; Chiemeké *et al.*, 2006; Bakker *et al.*, 2006; Nor Khalil & Pearson, 2008; Oni & Ayo, 2010; Fida, 2011; AliSaleh & Nor Khalil, 2013) confirmed the significance of integrating trust towards technology acceptance

Studies acknowledged that usage level considered low as compared with the providers anticipation (Suh & Han, 2002; Muhammed & Khalil, 2011; Wasfi *et al.*, 2012) in relation to internet banking acceptance. Meanwhile, some studies agreed that internet banking could be hindered by operating systems. If these challenges could be eliminated, a large number of bank customers may accept the internet banking system (AliSaleh & Nor Khalil, 2013; Baraghani, 2007).

Oni & Ayo (2010) confirmed that internet banking is advantageous for banks and their customers. Perception of banks, internet banking allows banks to lessen their functioning expenses with the decline in physical option such as personnel resources, reduce waiting time at bank branches, acceptance the technology expected to improve sales targeted and larger worldwide accomplishments.

Internet banking allows customers to perform a number of bank transactions digitally via the website wherever and whenever (Grabner-Kräuter & Faullant, 2008; Al-Gahtani *et al.*, 2007), Kumbhar (2011) suggested that internet banking could be used at any time irrespective of the mileage for balance authentication, cash transfer, settlement of bills and others. This means that customers can achieve their specific transactions at any geographical location with ease and anytime with the technology.

Undesirably, taking into consideration those benefits associated with internet banking; many customers still prefer conventional banking methods (AliSaleh & Nor Khalil, 2013). However, the situation could not be exceptional as other innovations confronted challenges in terms of acceptance and usage, thus, internet banking system expected to confront quite a few challenges related to the acceptance and usage (Nor Khalil & Pearson, 2007). Earlier studies traced this unwillingness in accepting internet banking to some motivational control, attitudinal factors and deficiency of customers trust in banking via internet. Trust has a critical turn on buying decisions (Olasanmi, 2010). In accordance with Kolsaker *et al.* (2004) as an example, trust has become the primary factor that has impact on buying via internet.

Considering the fact that trust has a crucial role towards decision associated with acceptance of the technology (internet banking), developing better approaches to gain customers' trust is considered very important for banks offering internet banking

system. Gefen (2003) and Yap *et al.* (2009) stated that trust is a crucial factor towards strengthening acceptance of technology such as internet banking technology, trust as a factor would influence and strengthen the customers' attitude to use the technology, trust established lessen customers' threat conception (Kim *et al.*, 2010; Gefen *et al.*, 2008; Nicolaou & McKnight, 2006; Pavlou & Gefen, 2004). Having considered these facts, it is crucial to structure a proficient model that might develop customers' trust in internet banking system. Malek & Kamariah (2011) stated that banks need to have established a perfect system that might improve internet banking acceptance with trust foundation.

Taking into account that satisfaction or dissatisfaction regarding a particular technology ought to count upon the extent at which it is accepted. Therefore, need well established factors that could explain customers' acceptance of internet banking system. In spite of the significance of trust structuring for internet banking acceptance, there is insufficient study in this area most especially in Nigeria in particular, this current study attempted to answer related questions on the role of trust in the relationship between technology factor and intention to accept internet banking in Nigeria.

Based on the facts that satisfaction or dissatisfaction regarding a particular technology ought to count upon the extent to which it is accepted. Therefore, there is absolute need for a well-established factors that could explain customers' acceptance of the technology. In spite of the significance of trust in relation to structuring internet banking acceptance, an insufficient study in this area most especially in Nigeria seems limited, this current study attempted to investigate the role of trust as a mediator in the relationship between technology factor and intent to accept internet banking in context Nigeria

## **1.2 Internet banking acceptance in Nigeria**

Internet banking considered unique, but significantly less established with a minimal accepting level in Nigeria. The emerging trend started in the Nigeria banking industry

in 2003 the moment the Central Bank of Nigeria made it compulsory for all banks to offer internet banking. In June 2004, the Central Bank of Nigeria (CBN) introduced economic reforms and monetary policy as a guideline for banking activities in Nigeria. The reformation practice left Nigeria with twenty-one strong and reliable commercial banks against 89 banks already in existence (Edwin & Adele, 2014).

The twenty-one commercial banks surviving the recapitalization exercise have tremendously involved the use of internet based technology as a platform for achieving efficiency of the system (Muhammad & Mukhtar, 2013; Oni & Ayo, 2010). List of twenty-one commercial banks that fully offers internet banking systems with their websites in Nigeria, presented in Table 1.1.

Table 1.1: List of banks that offer internet banking service in Nigeria  
(Central Bank of Nigeria website, 2015)

No	Commercial Banks	Definition
1	Access Bank Plc	<a href="http://www.accessbankplc.com">www.accessbankplc.com</a>
2	Citibank Nigeria Ltd	<a href="http://www.citibank.com/tts/global%20network/.../nigeria.htm">www.citibank.com/tts/global network/.../nigeria.htm</a>
3	Diamond Bank	<a href="http://www.diamondbank.com">www.diamondbank.com</a>
4	Eco Bank Nigeria Plc	<a href="http://www.ecobank.com">www.ecobank.com</a>
5	Enterprise Bank	<a href="http://www.enterprisebanking.com">www.enterprisebanking.com</a>
6	First Bank of Nigeria	<a href="http://www.firstbanknigeria.com">www.firstbanknigeria.com</a>
7	Fidelity Bank	<a href="http://www.fidelitybank.com">www.fidelitybank.com</a>
8	First City Monument Bank Ltd	<a href="http://www.fcmb.com">www.fcmb.com</a>
9	First Inland Bank Plc	<a href="http://www.banksinnigeria.net/first-inland-bank-finbank">www.banksinnigeria.net/first-inland-bank-finbank</a>
10	Guaranty Trust Bank	<a href="http://www.gtbank.com">www.gtbank.com</a>
11	Key Stone Bank	<a href="http://www.keystonebankng.com">www.keystonebankng.com</a>
12	MainStreet Bank Limited	<a href="http://www.mainstreetbanklimited.com">www.mainstreetbanklimited.com</a>
13	Skye Bank Nigeria	<a href="http://www.skyebankng.com">www.skyebankng.com</a>
14	Stanbic IBTC Bank Plc	<a href="http://www.stanbicibtcbank.com">www.stanbicibtcbank.com</a>
15	Standard Chartered Bank Plc	<a href="http://www.sc.com/ng">www.sc.com/ng</a>
16	Sterling bank Nigeria	<a href="http://www.sterlingbankng.com">www.sterlingbankng.com</a>
17	Union Bank of Nigeria	<a href="http://www.unionbankng.com">www.unionbankng.com</a>
18	Unity Bank Nigeria	<a href="http://www.unitybankng.com">www.unitybankng.com</a>
19	United Bank for Africa	<a href="http://www.ubagroup.com">www.ubagroup.com</a>
20	Wema Bank Nigeria	<a href="http://www.wemabank.com">www.wemabank.com</a>
21	Zenith Bank	<a href="http://www.zenithbank.com">www.zenithbank.com</a>

Nigeria populated with more than 186 million populations, 130 million bank account holders (CIA, 2012; Internet Live Stats, 2016), (Okeke & Okpala, 2014; Odior & Richard, 2013). The growth and usages of the internet have augmented in Nigeria in the last decade years due to the auction of the license of telecommunication services. In August 2001, The Nigeria government auctioned licenses to the telecommunication



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